INDEX.

Adams, A. Leith, Notes on the Mummied Bodies of the Ibis and other Birds, found in Egypt, 173.

Algebraic Equation, method of approximating to the Roots of any, 315.

Anderson, Dr Thos., on the Cultivation of Cinchona in Sikkim, 153.

Apjohn, Manual of the Metalloids, reviewed, 131.

Arran, Drift-beds with Shells in south-west of, 312.

Astronomy, Hand-book of, by G. F. Chambers, noticed, 297.

Atmospheres of the Earth and of the Sun, Circulation of, 183.

Balfour, Professor, on the Occurrence of *Sagina nivalis* on Benlawers, 152.

——— notice of the state of the Open Air Vegetation in the Edinburgh Botanic Garden during December 1863, 315.

Baxter, H. F., on the Effects of Acid and Alkaline Solutions on Muscular Action through the Nerves, 29.

Bentham, Flora Australiensis, noticed, 136.

Birds' Eggs, Remains of, found at Fisherton, near Salisbury, 74.

Blackmore, Dr H. P., on the Remains of Birds' Eggs found at Fisherton, near Salisbury, 74.

Blood, Observation on, 20.

Botanic Garden of Edinburgh, Plants in Flower in the, 158.

——— Vegetation in, during December 1863, 315.

Botanic Garden, Calcutta, 163.

Botanical Society, Proceedings of, 149, 326.

Brewster, Sir David, on the Influence of the Refracting Force of Calcareous Spar, on the Polarization, Intensity, and Colour of the Light which it Reflects, 319.

Brown, Robert, Report to British Columbia Association of Edinburgh, 163, 326.

Cinchona, Cultivation of, in Sikkim, 153

——— Plantation in Jamaica, 332.

Classification of Animals based on the Principles of Cephalization, 75, 260.

Cleghorn, Dr, on some Economic Plants of India, 154.

Cotton in India, 155.

Crania, Human, allied in anatomical character to the Engis and Neanderthal Skulls, 314.

XUM

Cryptogams, Sexuality of Higher, 192.
Dana, James D., on Parallel Relations of the Classes of Vertebrates, 75.
——— James D., on the Classification of Animals based on the Principles of Cephalization, 75, 260.
——— James D., on some Characteristics of Reptilian Birds, 75.
Daubeny on Climate, reviewed, 122.
Davy, John, on the Slaking of Quicklime, 15.
——— on the Blood, chiefly in relation to the question, Is Ammonia in its Volatile State one of its Normal Constituents? 20.
Dawson, J. W., Air-Breathers of the Coal Period, reviewed, 127.
——— on the Antiquity of Man, 40.
Dickson, Dr A., on Diplostemonous Flowers, and on the Carpels of Malvaceæ, 239.
Diplostemonous Flowers, Remarks on, 239.
Drift-beds, with Shells, on south-west of Arran, by the Rev. R. Boog Watson, 312.
Ferns and Filicoid Plants of Canada, 102, 273.
Fertilisation of Orchids, 69.
Fucus distichus, in County Clare, 151.
Geography, Zoological and Botanical, Anomalies in, 1.
Hislop, Rev. Stephen, of Nagpore, Obituary of, 169.
Hybridity of Plants, 220.
Hydroida, Amœbiform Protoplasm in, by Professor Allman, 313.
Ibis, and other Egyptian Birds, in a Mummy State, 173.
India, Economic Plants of, 154.
Innes, Professor Cosmo, Opening Address, Royal Society, Edinburgh, 298.
Jameson, William, on the Cultivation of Tea in India, 153.
——— on some Indian Plants, 157.
Kilkee, County Clare, Vegetation of, 150.
Lawson, Dr George, Synopsis of Canadian Ferns and Filicoid Plants, 102, 273.
——— on the Chemical and Natural History of Lupuline, 200.
Lupuline, Chemical and Natural History of, 200.
Lynn's First Principles of Natural Philosophy, noticed, 141.
M'Nab, James, Report on Plants in Flower in the Edinburgh Botanic Garden, 158.
Malvaceæ, position of Carpels of, 239.
Man, Antiquity of, 40.
Martius, Dr C. F. von, of Munich, Proposed Testimonial to, 168.
Meredith, Dr, on the Vegetation of Demerara, 330.
Meteorological Society of Scotland, Journal of, reviewed, 291.
Milne, William, on Vegetation of Old Calabar, 328.
Mosses, New and Rare British, by John Sadler, 149.
Munch, P. A., the Historian of Norway, Obituary of, 170.
Murphy, Joseph John, on the Circulation of the Atmosphere of the Earth and Sun, 183.
Murray, Andrew, on the Pines and Firs of Japan, reviewed, 135.

Murray, Andrew, on the Beetles found in gizzards of Egyptian Ibis, 181.
Muscular Action, Effects of Acid and Alkaline Solutions on, 29.
Myrica cerifera, Candleberry Myrtle, Remarks on, by Professor Lawson, 333.
Naudin, Ch., on Hybridity in Plants. Translated by G. M. Lowe, 220.
New Zealand, Geographical Discovery in, by Dr James Hector, 168.
Old Calabar, Vegetation of, 328.
Orchids, Fertilisation of, 69.
Page's Philosophy of Geology, reviewed, 142.
Personne, M. J., on the Chemical and Natural History of Lupuline, 200.
Petroleum, American, most Volatile Compounds of, 319.
Polypodium calcareum, 150.
Prior, Popular Names of British Plants, noticed, 134.
Pyrenees, Temperature of Hot Springs in, by Dr Scoresby-Jackson, 314.
Quadrature du Cercle, by James Smith, noticed, 116.
Quicklime, Slaking of, 15.
Reptilian Birds, some Characteristics of, 75.
Rhind, William, on the Irregularities of the Earth's Surface, and the probable Mean Line of the Terraqueous Circumference, 324.
Ronalds, Dr E., on the most Volatile Compounds of American Petroleum, 319.
Royal Physical Society, Proceedings of, 324.
Royal Society, Proceedings of, 298.
Rutherford, Dr William, on the Fertilisation of Orchids, 69.
Safford, T. H., on the Observed Motions of the Companion of Sirius, &c., 64.
Sagina nivalis, on Benlawers, 152.
Sang, Edward, method of approximating to the Roots of any Algebraic Equation, 315.
Scott, John, on the Sexuality of the Higher Cryptogams, and on a Hybrid Selaginella, 192.
——— on Sexual Changes in the Inflorescence of *Zea Mays*, 213.
Selaginella, Hybrid, 192.
Sirius, Observed Motion of the Companion of, 64.
Sissoo Tree, *Dalbergia Sissoo*, 162.
Spontaneous Generation, 168.
Tait, Magnus M., on the Action of Terchloride of Phosphorus on Aniline, 320.
——— Professor, on Fermat's Theorem, 323.
Tea Cultivation in Northern India, 159.
Tea, Cultivation of, in India, 153.
Terchloride of Phosphorus, its Action on Aniline, 320.
Thomson and Tait, Elementary Dynamics, reviewed, 118.
Tinder used in the Punjaub, 162.
Trichomanes radicans, 150.
Turner, William, on Human Crania allied in anatomical characters to the Engis and Neanderthal Skulls, 314.
Ulster Flora, by Professor Dickie, reviewed, 291.
Vancouver's Island, Botanical Report, from, 163, 326.
Vertebrates, Parallel Relations of Classes of, 75.

Victoria Toto Cœlo, by James Reddie, reviewed, 116.
Wallace, Alfred R., on some Anomalies in Zoological and Botanical Geography, 1.
Ward, N. B., On the Vegetation of the Cliffs of Kilkee, County Clare, 150.
Whin, *Ulex*, Remarks on Leaves of, by Professor Lawson, 334.
Woodsia hyperborea, in Gaspé, Canada East, 333.
Zea Mays, Sexual Changes in the Inflorescence of, 213.

THE END.

PRINTED BY NEILL AND COMPANY, EDINBURGH.

Q
1
E27
V. 76
1864

BUFFALO PUB
LIBRARY

PRINTED BY NEILL AND COMPANY, EDINBURGH.

CONTENTS.

PAGE

1. On some Anomalies in Zoological and Botanical Geography. By Alfred R. Wallace, . . . 1

2. On the Slaking of Quicklime. By John Davy, M.D., F.R.S. Lond. and Edin., ... 15

3. Some Observations on the Blood, chiefly in relation to the question, Is Ammonia in its volatile state one of its Normal Constituents? By John Davy, M.D., F.R.S. Lond. and Edin., &c., . . . 20

4. On the Relative Effects of Acid and Alkaline Solutions on Muscular Action through the Nerve. By H. F. Baxter, Esq., Cambridge, ... 29

5. On the Antiquity of Man; a Review of "Lyell" and "Wilson." By J. W. Dawson, LL.D., F.R.S., F.G.S., Principal of M'Gill College and University, Montreal. Communicated by the Author, . . 40

6. The Observed Motions of the Companion of Sirius considered with Reference to the Disturbing Body indicated by Theory. By T. H. Safford, Assistant at the Observatory of Harvard College. Communicated by the Author, ... 64

7. Notes on the Fertilisation of Orchids. By William Rutherford, M.D., President of the Royal Medical Society, Resident Physician Royal Infirmary. (Being a portion of a thesis, for which a gold medal was awarded by the Medical Faculty of the University of Edinburgh at the Graduation in 1863), . . 69

XUM

PAGE

8. Remains of Birds' Eggs found at Fisherton, near Salisbury. By H. P. Blackmore, M.D., Salisbury. Communicated by Sir William Jardine, Bart., . 74

9. I. On Parallel Relations of the Classes of Vertebrates, and on some Characteristics of the Reptilian Birds.
II. The Classification of Animals based on the Principle of Cephalization. No. I. By James D. Dana. Communicated by the Author, . . . 75

10. Synopsis of Canadian Ferns and Filicoid Plants. By George Lawson, Ph.D., LL.D., Professor of Chemistry in Dalhousie College, Halifax, Nova Scotia, . 102

REVIEWS:—

1. (1.) Victoria Toto Cœlo; or, Modern Astronomy Recast. By James Reddie, F.A.S.L., Hon. Mem. Dial. Soc. Edin. Univ. London, 1863. Hardwicke.
(2.) Quadrature du Cercle. Par un Membre de l'Association Britannique pour l'avancement de la Science (James Smith). Bordeaux, 1863, . . . 116

2. Sketch of Elementary Dynamics. By W. Thomson and P. G. Tait. Edinburgh: Maclachlan and Stewart, 118

3. Climate: An Inquiry into the Causes of its Differences, and into its Influence on Vegetable Life. By C. Daubeny, M.D., F.R.S., &c., Professor of Botany and of Rural Economy in the University of Oxford, 122

4. Manual of the Metalloids. By James Apjohn, M.D., F.R.S., M.R.I.A., Professor of Chemistry in the University of Dublin. London: Longman & Co. 1864. 12mo. Pp. 596, . . . 131

PAGE

5. On the Popular Names of British Plants; being an Explanation of the Origin and Meaning of the Names of our Indigenous and most commonly cultivated Species. By R. C. Alexander Prior, M.D., F.L.S., Fellow of the Royal College of Physicians of London. 8vo. London: Williams and Norgate, 1863, . 134

6. The Pines and Firs of Japan; illustrated by upwards of 200 woodcuts. By Andrew Murray, F.L.S., Assistant Secretary to the Royal Horticultural Society. 8vo. Pp. 124. London: Bradbury and Evans, 1863, ... 135

7. Flora Australiensis: a Description of the Plants of the Australian Territory. By George Bentham, F.R.S., F.L.S., assisted by Ferdinand Mueller, M.D., F.R.S. and L.S., Government Botanist, Melbourne, Victoria. Vol. I., Ranunculaceæ to Anacardiaceæ. Published under the authority of the several Governments of the Australian Colonies. 8vo. Pp. 508. London: Lovell Reeve and Co., 1863, . . 136

8. Air-Breathers of the Coal Period: a Descriptive Account of the Remains of Land Animals found in the Coal Formation of Nova Scotia, with Remarks on their bearing on Theories of the Formation of Coal and of the Origin of Species. By J. W. Dawson, LL.D., F.R.S., F.G.S., Principal of M'Gill University. 8vo. Pp. 81. Montreal: Dawson Brothers, 1863, 137

9. The First Principles of Natural Philosophy. By W. T. Lynn. London: Van Voorst, 1863, . . 141

10. The Philosophy of Geology: a brief Review of the Aim, Scope, and Character of Geological Inquiry. By David Page, F.R.S.E., F.G.S. 12mo. Pp. 155. William Blackwood and Sons, Edinburgh and London, 1863, ... 142

PROCEEDINGS OF SOCIETIES:—

PAGE

Botanical Society of Edinburgh, ... 149

SCIENTIFIC INTELLIGENCE:—

BOTANY.

1. The Progress of Tea Cultivation in Northern India. 2. Tinder used in the Punjaub. 3. Sissoo Tree (*Dalbergia Sissoo*). 4. Botanic Garden, Calcutta, 159–163

MISCELLANEOUS.

5. Letter from Mr Robert Brown, Botanist to the British Columbia Association of Edinburgh, dated Victoria, Vancouver's Island, July 24, 1863. 6. Call to participate in presenting a Testimonial to the distinguished Botanist, Dr Carl Friedrich Philipp von Martius of Munich. 7. Geographical Discovery in New Zealand, ... 163–168

OBITUARIES.

8. The late Rev. Stephen Hislop of Nagpore. 9. Mr P. A. Munch, the Historian of Norway, . 169, 170

Publications received, ... 171

CONTENTS.

PAGE

1. Notes on the Mummied Bodies of the Ibis and other Birds, found in Egypt. By A. Leith Adams, A.M., &c., Surgeon 22d Regiment, . . . 173

2. On the Circulation of the Atmospheres of the Earth and the Sun. By Joseph John Murphy, Esq. (Plate I.), 183

3. Remarks on the Sexuality of the Higher Cryptogams, with a Notice of a Hybrid Selaginella. By John Scott, Royal Botanic Garden, Edinburgh, . . 192

4. On the Chemical and Natural History of Lupuline. By M. J. Personne. Translated by George Lawson, LL.D., Professor of Chemistry in Dalhousie College, Halifax, Nova Scotia. (Plate II.), . . 200

5. Remarks on the Sexual Changes in the Inflorescence of *Zea Mays*. By Mr John Scott, . . . 213

6. New Researches on Hybridity in Plants. By M. Ch. Naudin. Translated from the Annales des Sciences Naturelles, by George May Lowe, Esq., . . 220

PAGE

7. On Diplostemonous Flowers, with some Remarks upon the Position of the Carpels in the Malvaceæ. By Alexander Dickson, M.D., Edin. (Plate III.), . 239

8. The Classification of Animals based on the Principle of Cephalization. No. I. By James D. Dana. Communicated by the Author. (Concluded from the January Number), ... 260

9. Synopsis of Canadian Ferns and Filicoid Plants. By George Lawson, Ph.D., LL.D., Professor of Chemistry and Natural History in Dalhousie College, Halifax, Nova Scotia. (Concluded from the January Number), ... 273

REVIEWS:—

1. Journal of the Scottish Meteorological Society, New Series, No. I. William Blackwood and Sons, Edinburgh and London. January 1864, . . 291

2. Flora of Ulster and Botanist's Guide to the North of Ireland. By G. Dickie, A.M., M.D., F.L.S., Professor of Botany, Aberdeen. Aitchison, Belfast, 1864. 24mo, pp. 176, ... 296

3. A Hand-Book of Descriptive and Practical Astronomy. By George F. Chambers, F.R.G.S. Murray, London, 1861. 12mo, pp. 514, ... 297

PROCEEDINGS OF SOCIETIES:—

PAGE

Royal Society of Edinburgh, ... 298

Royal Physical Society of Edinburgh, . . . 324

Botanical Society of Edinburgh, ... 326

PUBLICATIONS RECEIVED, ... 336